

**Vienna Instruments**  
**Solo Download Instruments**  
**Bassoon**  
**Full Library**

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## Introduction

Welcome to the Vienna Symphonic Library, and thank you for purchasing one of our Solo Download Instruments! This document contains the mapping information for the "Full" version of the Vienna Instruments Bassoon. You will find in it a comprehensive survey of the articulations/Patches content, a listing of abbreviations, and the mapping list proper which gives details for every Patch, Matrix, and Preset.

## "Full" Library

As opposed to the "Standard" versions of our Solo Download Instruments, the "Full" versions are identical with the corresponding instruments of a DVD Collection, i.e., they contain exactly the same samples, Patches, Matrices and Presets as the latter without any restrictions.

Installing a Download Instrument's Full version copies that instrument's sample content to a separate folder on your hard disk, so that it is not necessary to keep its Standard version installed – you may either delete it from your hard disk or at least remove it from the Directory Manager's list of activated instruments. In the Vienna Instruments Browser, the path of the Full version will be the same as that of the corresponding DVD Instrument, so that you can still see both versions as separate entries if you keep the Standard version installed.

## Data paths and Patch name conventions

Since the Full versions of Download Instruments conform to the corresponding DVD Instruments, the data paths in your Vienna Instruments browser will be different than those of Standard Download or Special Edition Instruments. For instance, the path of the Standard Download Library of Flute 1 is "02D Flute-1", and all Patches can be found in this folder regardless of the articulation group they belong to. The Patch number is also marked with a "D" so that you immediately know it is a Download Instrument. In the Vienna Special Edition, Flute 1 is located in the folder "11 Flutes" together with the other flutes. Here, the Patch number is marked with an "S". The Full Download of Flute 1 is located in the subfolder "32 Flute" of the section "Woodwind Patches", which again contains subfolders grouping the Patches according to type, e.g., "01 SHORT + LONG NOTES", "02 DYNAMICS", etc. Patch names of the Full Download Library may differ from the corresponding ones of the Standard Download Library.

While Full Download Instruments contain all articulations of the corresponding DVD Instruments, their Patches are not divided into Standard and Extended content. The list of articulations further down which gives a summary of the Library's contents.

Special Patch configurations which sometimes are part of a Standard Download Instrument may be found in a reserved folder called "98 RESOURCES" in the Full Instrument. E.g., Flute 1 Standard contains the Patch "22D FL1 legato-sus"; in Flute 1 Full, this Patch is called "01 FL1\_perf\_leg\_sustain" and is located in the Resources' subfolder "03 Perf Speed variation". (Apart from that, it also contains more samples.) Other articulations that can be found in the Resources folder are isolated dynamics repetitions in the subfolder "01 Perf Rep dyn" – e.g., the five repetitions of a legato crescendo, divided into separate Patches – and extracted velocity layers of sustained notes in the subfolder "02 Long Notes – Single Layer".

## Patch information

The Patch information includes articulation type, playing range, number of samples used, RAM requirements, the number of velocity layers and alternations, AB switching possibilities, etc., as well as Patch specific information if necessary.

Where the type of articulation requires a special mapping (e.g., natural harmonics patches), the mapping layout will be shown in a detailed graphic.

**Major and minor runs** are always mapped to the keys of their scale, as are **arpeggios** to the keys of the broken chord played. **Grace notes** and **mordents** are mapped to their target note, i.e., the note the articulation ends with. Due to their nature, all **upward and downward articulations** (e.g., fixed glissandos and octave runs) have different mapping ranges – the upward movements ending the involved interval below the Patch's upper mapping range, while downward movements end the interval above its lower mapping range. (Please note that not all of the articulations mentioned above may be contained in your Collection.)

The Patch information also lists a Patch's velocity layers in detail. Velocity layer switches generally are the same for patches with the same number of layers but may occasionally be adapted to the instrument's requirements:

Layers	Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Layer 6
2	1–88	89–127				
3	1–55	56–88	89–127			
4	1–55	56–88	89–108	109–127		
5	1–24	25–55	56–88	89–108	109–127	
6	1–24	25–55	56–88	89–108	109–118	119–127

## Interval performances

Interval performances are one of the outstanding features of our Vienna Instruments. They allow you to play authentic legato without any programming tricks. In our Silent Stage, all intervals from minor second to the octave were recorded for every instrument – up and down, of course; that makes 24 interval samples per note for one velocity alone! When you load an interval performance Patch and play a line on your keyboard, the software automatically joins the right samples with their interval transitions again, and you hear a perfect legato. By the way, this technique is not only used for legato but also for other articulations like the strings' portamento, marcato, or détaché and spiccato articulations.

Interval performances also contain at least two legato repetitions for every note which alternate automatically whenever you strike a key more than once. There also are preconfigured thresholds for legato and repetition notes: The legato threshold – i.e., the maximum break between notes where legato is played – is 50 ms. Otherwise, a sustained starting note will sound so that you can easily start a new phrase without leaving the legato Patch. For note repetitions, the threshold is 200 ms: a break up to that duration will yield a legato repetition; if the break is longer, a new starting note. But of course, it's mingling legato with other articulations which makes a piece really come alive.

Due to their nature, all interval performances are monophonic; otherwise, the software would have to be able to decide which source note belongs to which target note. To circumvent this, you can open two VI instances of the same instrument on separate MIDI tracks without any additional strain on your RAM.

*Note:* the Vienna Instruments PRO player software also allows you to play polyphonic Interval performances.

Another variety of interval performance you will come across is the “perf-leg\_sus” Patch. These Patches also contain normal legatos, only the target note of each interval is crossfaded into a looped sustain. They can be used for slower pieces with long notes; however, you should use them with circumspection, since plain legatos sound more lively because they not only render the interval transitions as they were played, but also have different target samples for every interval instead of the same sustained note: When you play, e.g., c–e and then c#–e with normal legato, you will get two different “e” tones; with sus-legato you won't.

## Matrix information

Each Matrix listing contains information regarding the Patches used for the Matrix, the number of horizontal and vertical dimensions, and switching properties. A mapping table shows the Cell positions for each of the Matrix' Patches.

**A/B switching** normally is set to A0 for upward/crescendo, and B0 for downward/diminuendo. However, some bass instruments go below that range so that the A/B keys have to be adapted accordingly. For example, the A/B switches for double bass are A0 and A#0 because the instrument's lower range extends to B0.

In order to facilitate working with **MIDI controller switches** like the Modulation wheel, the switching positions are not distributed equally across the controller range if they control more than two Matrix rows or columns; generally, the switching range will be narrower at the extreme positions because they are easy to set, and wider in the middle where it is harder to find the desired setting.

**Speed controller switches** naturally are adjusted to the Patches involved, and have been tested carefully as to their playability. However, if you find that they do not fit your playing, or want to try out other settings, you can change this as well as any other controller's settings at the **Control edit** page, and save the result in your Custom Matrix folder.

## Preset information

The Preset information lists the Matrices used in the Preset as well as its keyswitches. All other information can be gathered from the Matrix and Patch listings, so there's not really much to say here. Please note that the Matrices of a Preset can also be switched with MIDI Program Changes (VI: 101–112; VI PRO: 1–127) instead of keyboard notes, and if you like to keep your keyboard free for playing instead of switching, you can disable Preset keyswitching and only use MIDI Program Changes. Vienna Instruments PRO also allows you to define a MIDI Control for Preset keyswitching.

## Abbreviations

Here's a list of abbreviations in Patch names, which will help you to determine a Patch's content even without the help of the Vienna Instruments browser. Please note that not all of the abbreviations may occur in the manual on hand.

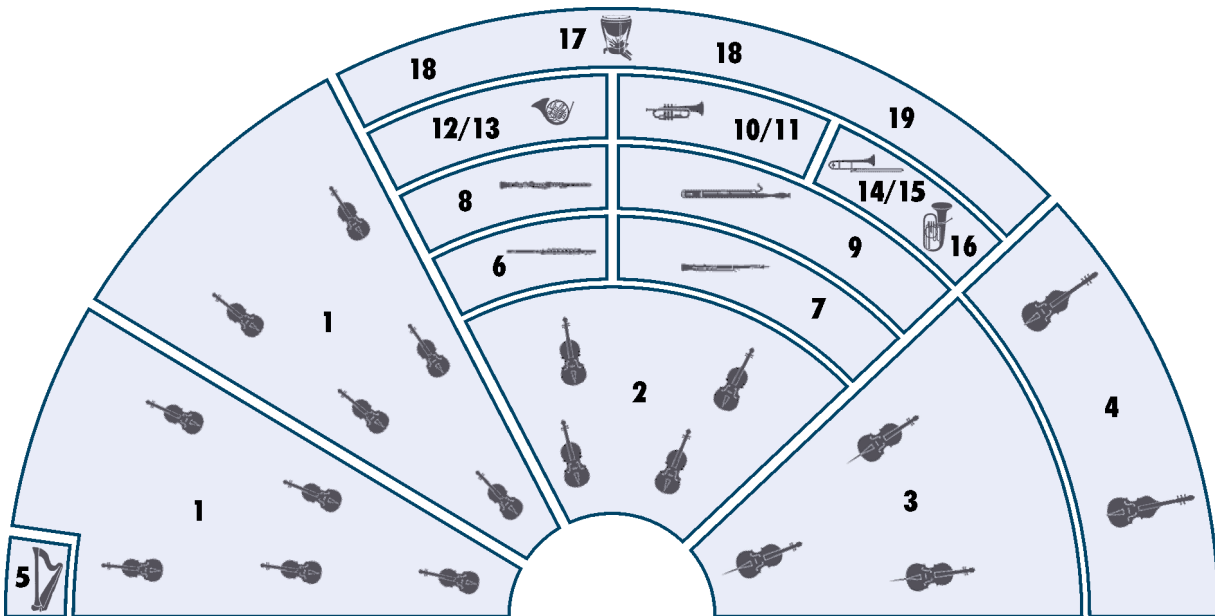
Abbreviation	Meaning	Abbreviation	Meaning
+	faster articulation (runs and arpeggios)	li	light
150, 160, ...	150, 160, ... BPM (beats per minute)	lo	long
1s, 2s, ...	tone length 1 sec., 2 sec., ...	ma	major
acc	accelerando	me	medium
all	combination of all Patches of a category	mi	minor
arp	arpeggio	mord	mordent
cre	crescendo	nA	normal attack
dim	diminuendo	noVib	without vibrato
dm	diminished (arpeggios)	perf-rep	repetition performance
dyn	dynamics (crescendo and diminuendo)	por	portato
dyn5, dyn9	dynamics, 5/9 repetitions	run	octave run
fa	fast	sA	soft attack
faT	fast triplets	sl	slow
fA	fast attack	sta, stac	staccato
fA_auto	attack automation (normal/fast attack)	str	strong
fast-rep	fast repetitions	sus	sustained
flatter	flutter tonguing	T	triplets
fx	effect – flute: tongue-ram staccato	UB	upbeat
hA	hard attack	UB-a1, -a2	1, 2 upbeats
leg	legato	v1, v2 ...	1st, 2nd, ... variation
		Vib	with (medium) vibrato
		Vib-progr	progressive vibrato
		XF	cell crossfade Matrix

## Articulations

<b>42 Bassoon</b>	<b>Full Content</b>
<b>01 SHORT + LONG NOTES</b>	Staccato Portato short and medium Portato long without vibrato, normal and marcato Sustained with normal, progressive, and without vibrato
<b>02 DYNAMICS</b>	Medium crescendo and diminuendo with vibrato 2, 3 and 5 sec. Medium crescendo and diminuendo without vibrato 1.5, 2, 3, 4 and 6 sec. Strong crescendo and diminuendo with vibrato, 3 and 5 sec. Strong crescendo and diminuendo without vibrato, 3, 4 and 6 sec. pfp with vibrato, 3, 5 and 8 sec. fpf with vibrato, 5 sec. pfp without vibrato, 4, 6, 8, and 10 sec. fpf without vibrato, 6 and 8 sec. Fortepiano, sforzato, sforzatissimo without vibrato
<b>03 FLATTER + TRILLS</b>	Flutter tonguing Trills, minor to major 2nd, normal and dynamics
<b>10 PERF INTERVAL</b>	Legato Marcato Grace notes
<b>11 PERF INTERVAL FAST</b>	Legato Marcato
<b>12 PERF TRILL</b>	Trills, legato, minor 2nd to major 3rd
<b>13 PERF REPETITION</b>	Legato and portato slow and fast, staccato Dynamics for all repetitions
<b>14 PERF UPBEAT REPETITION</b>	1 and 2 upbeats, slow and fast, normal and dynamics
<b>15 FAST REPETITION</b>	Staccato, 9 repetitions, 140 to 180 BPM, normal and dynamics
<b>16 GRACE NOTES</b>	Grace notes, minor 2nd to octave, up and down
<b>17 SCALE RUNS</b>	Octave runs, legato, up and down major and minor from C to B key, chromatic and whole tone

## The orchestra

There are several ways of setting up an orchestra, depending on the era of the piece played, the type of the piece and the instruments it requires, and even on the preference of the conductor. The figure below shows one of the more common setups, which can be taken as a guideline for mixing a composition, properly positioning the instruments in the stereo field and adding reverb according to the size of the concert hall you want your piece to be played in.



- |                           |                                 |
|---------------------------|---------------------------------|
| 1 1st and 2nd violin      | 9 Bassoon, contrabassoon        |
| 2 Viola                   | 10/11 Trumpet                   |
| 3 Cello                   | 12/13 Horn                      |
| 4 Double bass             | 14/15 Trombone                  |
| 5 Harp                    | 16 Tuba                         |
| 6 Concert flute, piccolo  | 17 Timpani                      |
| 7 Oboe, English horn      | 18 Drums, cymbals               |
| 8 Clarinet, bass clarinet | 19 other percussion instruments |

## Pitch

For designating pitch, the Vienna Symphonic Library uses International Pitch Notation (IPN), which was agreed upon internationally under the auspices of the Acoustical Society of America. In this system the international standard of A=440 Hz is called A4 and middle C is C4. All pitches are written as capital letters, their respective octave being indicated by a number next to it. The lowest C on the piano is C1 (the A below that is A0), etc.

You can tune your Vienna Instruments to other players, or adjust it to tunings of earlier musical periods by setting the Perform page's Master Tune option within a range of 420 to 460 Hz.

# 42 Bassoon

## The Instrument

### Description

The bassoon is a woodwind instrument in the tenor and bass register. It is a double-reed instrument like the oboe. Due to the U-shaped bend of the bassoon tube however it sounds mellow and velvety and lacks the penetrating and brilliant shawm-like sound.

Modern woodwind sections usually use two bassoons.

### Range and notation

The bassoon has a range from Bb1–Eb5 (forced up to F5).

It is a non-transposing instrument (actual pitches are notated). Notation is in bass clef, with tenor clef being used for the higher registers. Notation in treble clef is rare.

### Sound characteristics

Mellow, gentle, velvety, mild, sonorous, warm, smooth, picturesque, tense, active, penetrating, plaintive, long, light, delicate, full, round, slender, narrow, sensitive.

The differences between the registers are very pronounced, which is one of the instrument's most striking characteristics: full and sonorous in the lower register, slender, elegant and melodious in the middle and narrow and compressed in the upper register.

The bassoon's low notes with their substantial, compact and unobtrusive sound are often used as a bass foundation. The notes of the middle register sound sonorous, rich, clear and stately. They possess a wide range of expression; they can be gently caressing or sharply austere, merry and bright or melancholy and despondent. They are equally well suited for mysterious, demonic and eerie effects.

In all its registers, the notes of the bassoon – especially staccato notes – are well suited for the performance of humorous, comic effects and the depiction of musical caricatures.

### Combination with other instruments

The fascination of the bassoon's sound lies in two qualities:

On the one hand, it achieves a good blend with most of the other instruments in the orchestra, as does the horn; This capability to blend with the sound of other instruments allows the bassoon to merge with the overall sound of the orchestra as an unobtrusive bass voice.

On the other hand the bassoon's sound is also clearly defined and therefore suitable for thematic and solo tasks.



## Patches

01 SHORT + LONG NOTES		Range: A#1–F5		
<b>01 BA_staccato</b>			<b>Samples: 328</b>	<b>RAM: 20 MB</b>
Staccato 4 velocity layers				
<b>02 BA_portato_short</b>			<b>Samples: 328</b>	<b>RAM: 20 MB</b>
Portato, short 4 velocity layers				
<b>03 BA_portato_medium</b>			<b>Samples: 328</b>	<b>RAM: 20 MB</b>
Portato, medium 4 velocity layers				
<b>04 BA_por_lo_Vib</b>			<b>Samples: 328</b>	<b>RAM: 20 MB</b>
Portato, long, with vibrato 4 velocity layers Release samples				
<b>05 BA_por_lo_Vib-strong</b>			<b>Samples: 164</b>	<b>RAM: 10 MB</b>
Portato, long, strong vibrato 2 velocity layers Release samples				
<b>06 BA_por_lo_noVib</b>		<b>Range: A#1–A#4</b>	<b>Samples: 300</b>	<b>RAM: 18 MB</b>
Portato, long, without vibrato 4 velocity layers Release samples				
<b>07 BA_por_lo_noVib-marc</b>			<b>Samples: 287</b>	<b>RAM: 17 MB</b>
Portato, long, without vibrato, marcato 3 velocity layers Release samples				
<b>11 BA_sus_Vib</b>			<b>Samples: 246</b>	<b>RAM: 15 MB</b>
Sustained, with vibrato 3 velocity layers Release samples				
<b>12 BA_sus_Vib-progr</b>			<b>Samples: 246</b>	<b>RAM: 15 MB</b>
Sustained, progressive vibrato 3 velocity layers Release samples				

**13 BA\_sus\_noVib****Samples: 328****RAM: 20 MB**

Sustained, without vibrato  
 4 velocity layers  
 Release samples

**02 DYNAMICS****Range: A#1–D#5****01 BA\_dyn-me\_Vib\_2s****Samples: 156****RAM: 9 MB**

Medium crescendo and diminuendo with vibrato, 2 sec.  
 2 velocity layers  
 AB switch crescendo/diminuendo

**02 BA\_dyn-me\_Vib\_3s****Samples: 156****RAM: 9 MB**

Medium crescendo and diminuendo with vibrato, 3 sec.  
 2 velocity layers  
 AB switch crescendo/diminuendo

**03 BA\_dyn-me\_Vib\_5s****Samples: 156****RAM: 9 MB**

Medium crescendo and diminuendo with vibrato, 5 sec.  
 2 velocity layers  
 AB switch crescendo/diminuendo

**04 BA\_dyn-str\_Vib\_3s****Samples: 79****RAM: 4 MB**

Strong crescendo and diminuendo with vibrato, 3 sec.  
 1 velocity layer  
 AB switch crescendo/diminuendo

**05 BA\_dyn-str\_Vib\_5s****Samples: 82****RAM: 5 MB**

Strong crescendo and diminuendo with vibrato, 5 sec.  
 1 velocity layer  
 AB switch crescendo/diminuendo

**06 BA\_dyn-me\_noVib\_1'5s****Samples: 164****RAM: 10 MB**

Medium crescendo and diminuendo without vibrato, 1.5 sec.  
 2 velocity layers  
 AB switch crescendo/diminuendo

**07 BA\_dyn-me\_noVib\_2s****Samples: 164****RAM: 10 MB**



Medium crescendo and diminuendo without vibrato, 2 sec.  
 2 velocity layers  
 AB switch crescendo/diminuendo

**08 BA\_dyn-me\_noVib\_3s****Samples: 164****RAM: 10 MB**

Medium crescendo and diminuendo without vibrato, 3 sec.  
 2 velocity layers  
 AB switch crescendo/diminuendo

<b>09 BA_dyn-me_noVib_4s</b>	<b>Samples: 160</b>	<b>RAM: 10 MB</b>
Medium crescendo and diminuendo without vibrato, 4 sec. 2 velocity layers AB switch crescendo/diminuendo		
<b>10 BA_dyn-me_noVib_6s</b>	<b>Samples: 164</b>	<b>RAM: 10 MB</b>
Medium crescendo and diminuendo without vibrato, 6 sec. 2 velocity layers AB switch crescendo/diminuendo		
<b>11 BA_dyn-str_noVib_3s</b>	<b>Samples: 79</b>	<b>RAM: 4 MB</b>
Strong crescendo and diminuendo without vibrato, 3 sec. 1 velocity layer AB switch crescendo/diminuendo		
<b>12 BA_dyn-str_noVib_4s</b>	<b>Samples: 79</b>	<b>RAM: 4 MB</b>
Strong crescendo and diminuendo without vibrato, 4 sec. 1 velocity layer AB switch crescendo/diminuendo		
<b>13 BA_dyn-str_noVib_6s</b>	<b>Samples: 79</b>	<b>RAM: 4 MB</b>
Strong crescendo and diminuendo without vibrato, 6 sec. 1 velocity layer AB switch crescendo/diminuendo		
<b>14 BA_pfp_Vib_3s</b>	<b>Samples: 42</b>	<b>RAM: 2 MB</b>
Crescendo-diminuendo with vibrato, 3 sec. 2 velocity layers		
<b>15 BA_pfp_Vib_5s</b>	<b>Samples: 40</b>	<b>RAM: 2 MB</b>
Crescendo-diminuendo with vibrato, 5 sec. 2 velocity layers		
<b>16 BA_pfp_Vib_8s</b>	<b>Samples: 40</b>	<b>RAM: 2 MB</b>
Crescendo-diminuendo with vibrato, 8 sec. 2 velocity layers		
<b>17 BA_pfp_Vib_5s</b>	<b>Samples: 20</b>	<b>RAM: 1 MB</b>
Diminuendo-crescendo with vibrato, 5 sec. 1 velocity layer		
<b>18 BA_pfp_noVib_2s</b>	<b>Samples: 40</b>	<b>RAM: 2 MB</b>
Crescendo-diminuendo without vibrato, 2 sec. 2 velocity layers		
<b>19 BA_pfp_noVib_3s</b>	<b>Samples: 40</b>	<b>RAM: 2 MB</b>
Crescendo-diminuendo without vibrato, 3 sec. 2 velocity layers		

<b>20 BA_pfp_noVib_4s</b>		<b>Samples: 41</b>	<b>RAM: 2 MB</b>
Crescendo-diminuendo without vibrato, 4 sec. 2 velocity layers			
<b>21 BA_pfp_noVib_6s</b>		<b>Samples: 41</b>	<b>RAM: 2 MB</b>
Crescendo-diminuendo without vibrato, 6 sec. 2 velocity layers			
<b>22 BA_pfp_noVib_8s</b>		<b>Samples: 20</b>	<b>RAM: 1 MB</b>
Crescendo-diminuendo without vibrato, 8 sec. 1 velocity layer			
<b>23 BA_pfp_noVib_10s</b>		<b>Samples: 20</b>	<b>RAM: 1 MB</b>
Crescendo-diminuendo without vibrato, 10 sec. 1 velocity layer			
<b>24 BA_fpf_noVib_6s</b>		<b>Samples: 21</b>	<b>RAM: 1 MB</b>
Diminuendo-crescendo without vibrato, 6 sec. 1 velocity layer			
<b>25 BA_fpf_noVib_8s</b>		<b>Samples: 21</b>	<b>RAM: 1 MB</b>
Diminuendo-crescendo without vibrato, 8 sec. 1 velocity layer			
<b>26 BA_fp_noVib</b>	<b>Range: A#1–F5</b>	<b>Samples: 41</b>	<b>RAM: 2 MB</b>
Fortepiano, without vibrato 1 velocity layer			
<b>27 BA_sfz_noVib</b>	<b>Range: A#1–F5</b>	<b>Samples: 41</b>	<b>RAM: 2 MB</b>
Sforzato, without vibrato 1 velocity layer			
<b>28 BA_sffz_noVib</b>	<b>Range: A#1–F5</b>	<b>Samples: 41</b>	<b>RAM: 2 MB</b>
Sforzatissimo, without vibrato 1 velocity layer			
<b>03 FLATTER + TRILLS</b>	<b>Range: A#1–D5</b>		
<b>01 BA_flatter</b>		<b>Samples: 78</b>	<b>RAM: 4 MB</b>
Flutter tonguing 1 velocity layer Release samples			
<b>11 BA_trill_1</b>		<b>Samples: 138</b>	<b>RAM: 8 MB</b>
Trills, minor 2nd 2 velocity layers Release samples			

<b>12 BA_trill_2</b>	<b>Samples: 144</b>	<b>RAM: 9 MB</b>
Trills, major 2nd 2 velocity layers Release samples		
<b>13 BA_trill_1_dyn</b>	<b>Samples: 68</b>	<b>RAM: 4 MB</b>
Trills, minor 2nd Crescendo and diminuendo 1 velocity layer AB switch crescendo/diminuendo		
<b>14 BA_trill_2_dyn</b>	<b>Samples: 72</b>	<b>RAM: 4 MB</b>
Trills, major 2nd Crescendo and diminuendo 1 velocity layer AB switch crescendo/diminuendo		
<b>10 PERF INTERVAL</b>	<b>Range: A#1–D5</b>	
<b>01 BA_perf-legato</b>	<b>Samples: 1116</b>	<b>RAM: 69 MB</b>
Legato 2 velocity layers Release samples		
<b>02 BA_perf-legato_grace</b>	<b>Samples: 1441</b>	<b>RAM: 90 MB</b>
Grace notes, legato Minor 2nd to octave 3 velocity layers Release samples		
<b>03 BA_perf-marcato</b>	<b>Samples: 1030</b>	<b>RAM: 64 MB</b>
Marcato interval performance 2 velocity layers Release samples		
<b>11 PERF INTERVAL FAST</b>	<b>Range: A#1–D5</b>	
<b>01 BA_perf-legato_fa</b>	<b>Samples: 1310</b>	<b>RAM: 81 MB</b>
Legato, fast 2 velocity layers Release samples		
<b>02 BA_perf-marcato_fa</b>	<b>Samples: 1182</b>	<b>RAM: 73 MB</b>
Marcato, fast 2 velocity layers		

**12 PERF TRILL****Range: A#1–D5****01 BA\_perf-trill****Samples: 2404   RAM: 150 MB**

Performance trills, legato, minor 2nd to major 3rd  
 2 velocity layers  
 Release samples

**13 PERF REPETITION****Range: A#1–D5****01 BA\_perf-rep\_leg-sl****Samples: 300   RAM: 18 MB**

Legato, slow  
 3 velocity layers

**02 BA\_perf-rep\_leg-fa****Samples: 300   RAM: 18 MB**

Legato, fast  
 3 velocity layers

**03 BA\_perf-rep\_por-sl****Samples: 300   RAM: 18 MB**

Portato, slow  
 3 velocity layers

**04 BA\_perf-rep\_por-fa****Samples: 540   RAM: 33 MB**

Portato, fast  
 3 velocity layers

**05 BA\_perf-rep\_sta****Samples: 540   RAM: 33 MB**

Staccato  
 3 velocity layers

**21 BA\_perf-rep\_dyn5\_leg-sl****Samples: 200   RAM: 12 MB**

Legato dynamics, slow, 5 repetitions  
 1 velocity layer  
 AB switch crescendo/diminuendo

**22 BA\_perf-rep\_dyn5\_leg-fa****Samples: 200   RAM: 12 MB**


Legato dynamics, fast, 5 repetitions  
 1 velocity layer  
 AB switch crescendo/diminuendo

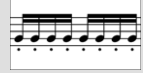
**23 BA\_perf-rep\_dyn5\_por-sl****Samples: 200   RAM: 12 MB**

Portato dynamics, slow, 5 repetitions  
 1 velocity layer  
 AB switch crescendo/diminuendo

**24 BA\_perf-rep\_dyn9\_por-fa****Samples: 342   RAM: 21 MB**

Portato dynamics, fast, 9 repetitions  
 1 velocity layer  
 AB switch crescendo/diminuendo

<b>25 BA_perf-rep_dyn9_sta</b>	<b>Samples: 360</b>	<b>RAM: 22 MB</b>
Staccato dynamics, 9 repetitions 1 velocity layer AB switch crescendo/diminuendo		
<b>14 PERF UPBEAT REPETITION</b>	<b>Range: A#1–D5</b>	
<b>01 BA_perf-rep_UB-a1_sl</b>	<b>Samples: 160</b>	<b>RAM: 10 MB</b>
1 upbeat, slow 2 velocity layers		
<b>02 BA_perf-rep_UB-a2_sl</b>	<b>Samples: 160</b>	<b>RAM: 10 MB</b>
2 upbeats, slow 2 velocity layers		
<b>03 BA_perf-rep_UB-a1_fa</b>	<b>Samples: 160</b>	<b>RAM: 10 MB</b>
1 upbeat, fast 2 velocity layers		
<b>04 BA_perf-rep_UB-a2_fa</b>	<b>Samples: 160</b>	<b>RAM: 10 MB</b>
2 upbeats, fast 2 velocity layers		
<b>11 BA_perf-rep_dyn4_UB-a1_sl</b>	<b>Samples: 160</b>	<b>RAM: 10 MB</b>
1 upbeat, slow, dynamics 4 repetitions 1 velocity layer AB switch crescendo/diminuendo		
<b>12 BA_perf-rep_dyn4_UB-a2_sl</b>	<b>Samples: 160</b>	<b>RAM: 10 MB</b>
2 upbeats, slow, dynamics 4 repetitions 1 velocity layer AB switch crescendo/diminuendo		
<b>13 BA_perf-rep_dyn4_UB-a1_fa</b>	<b>Samples: 160</b>	<b>RAM: 10 MB</b>
1 upbeat, fast, dynamics 4 repetitions 1 velocity layer AB switch crescendo/diminuendo		
<b>14 BA_perf-rep_dyn4_UB-a2_fa</b>	<b>Samples: 160</b>	<b>RAM: 10 MB</b>
2 upbeats, fast, dynamics 4 repetitions 1 velocity layer AB switch crescendo/diminuendo		

**15 FAST REPETITION****Range: A#1–D5****01 BA\_fast-rep\_140 (150/160/170/180)****Samples: 120****RAM: 7 MB**

Staccato, 9 repetitions, 140, 150, 160, 170, 180 BPM  
 3 velocity layers  
 Release samples

**11 BA\_fast-rep\_140\_dyn (150/160/170/180)****Samples: 40****RAM: 2 MB**

Staccato dynamics, 9 repetitions, 140, 150, 160, 170, 180 BPM  
 1 velocity layer  
 AB switch crescendo/diminuendo

**16 GRACE NOTES****Range: A#1–D5****01 BA\_grace-1****Samples: 239****RAM: 14 MB**

Grace notes, minor 2nd  
 3 velocity layers  
 Release samples  
 AB switch up/down

**02 BA\_grace-2****Samples: 239****RAM: 14 MB**

Grace notes, major 2nd  
 3 velocity layers  
 Release samples  
 AB switch up/down

**03 BA\_grace-3****Samples: 225****RAM: 14 MB**

Grace notes, minor 3rd  
 3 velocity layers  
 Release samples  
 AB switch up/down

**04 BA\_grace-4****Samples: 225****RAM: 14 MB**

Grace notes, major 3rd  
 3 velocity layers  
 Release samples  
 AB switch up/down

**05 BA\_grace-5****Samples: 219****RAM: 13 MB**

Grace notes, 4th  
 3 velocity layers  
 Release samples  
 AB switch up/down

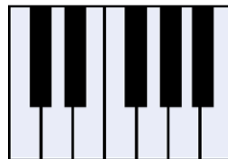


<b>06 BA_grace-6</b>	<b>Samples: 219</b>	<b>RAM: 13 MB</b>
Grace notes, diminished 5th 3 velocity layers Release samples AB switch up/down		
<b>07 BA_grace-7</b>	<b>Samples: 213</b>	<b>RAM: 13 MB</b>
Grace notes, 5th 3 velocity layers Release samples AB switch up/down		
<b>08 BA_grace-8</b>	<b>Samples: 213</b>	<b>RAM: 13 MB</b>
Grace notes, minor 6th 3 velocity layers Release samples AB switch up/down		
<b>09 BA_grace-9</b>	<b>Samples: 207</b>	<b>RAM: 12 MB</b>
Grace notes, major 6th 3 velocity layers Release samples AB switch up/down		
<b>10 BA_grace-10</b>	<b>Samples: 207</b>	<b>RAM: 12 MB</b>
Grace notes, minor 7th 3 velocity layers Release samples AB switch up/down		
<b>11 BA_grace-11</b>	<b>Samples: 201</b>	<b>RAM: 12 MB</b>
Grace notes, major 7th 3 velocity layers Release samples AB switch up/down		
<b>12 BA_grace-12</b>	<b>Samples: 201</b>	<b>RAM: 12 MB</b>
Grace notes, octave 3 velocity layers Release samples AB switch up/down		

## 17 SCALE RUNS

Please note that upward runs can be played only to an octave below the upper play range, downward runs to an octave above the lower play range. The octave runs are mapped diatonically according to their scale.  
For the playing ranges and mappings of individual scales, please see the appendix.

C major



C minor

**Legato major****Range: A#1–C#5****01 BA\_run-leg\_C-ma (through to B-ma)****Samples: 64****RAM: 4 MB**

Octave runs, legato, C to B major  
 2 velocity layers  
 AB switch up/down

**Legato minor****Range: A#1–D5****01 BA\_run-leg\_C-mi (through to B-mi)****Samples: 64****RAM: 4 MB**

Octave runs, legato, C to B minor  
 2 velocity layers  
 AB switch up/down

**Legato special****Range: A#1–D5****01 BA\_run-leg\_chromatic****Samples: 56****RAM: 3 MB**

Octave runs, legato, chromatic  
 2 velocity layers  
 AB switch up/down

**02 BA\_run-leg\_whole****Samples: 56****RAM: 3 MB**

Octave runs, legato, whole tone  
 2 velocity layers  
 AB switch up/down

**98 RESOURCES**

Isolated dynamics repetitions, single layer long notes, interval performance variations.

**01 Perf Rep dyn****Range: A#1–E5****01\_BA\_rep\_cre5\_leg-sl-1 (2/3/4/5)****Samples: 20****RAM: 1 MB**

Extracted repetitions: Legato slow, crescendo, 1st to 5th note  
 1 velocity layer

<b>01_BA_rep_dim5_leg-sl-1 (2/3/4/5)</b>		<b>Samples: 20</b>	<b>RAM: 1 MB</b>
Extracted repetitions: Legato slow, diminuendo, 1st to 5th note 1 velocity layer			
<b>02_BA_rep_cre5_leg-fa-1 (2/3/4/5)</b>		<b>Samples: 20</b>	<b>RAM: 1 MB</b>
Extracted repetitions: Legato fast, crescendo, 1st to 5th note 1 velocity layer			
<b>02_BA_rep_dim5_leg-fa-1 (2/3/4/5)</b>		<b>Samples: 20</b>	<b>RAM: 1 MB</b>
Extracted repetitions: Legato fast, diminuendo, 1st to 5th note 1 velocity layer			
<b>03_BA_rep_cre9_por-1 (2/3/4/5/6/7/8/9)</b>		<b>Samples: 19</b>	<b>RAM: 1 MB</b>
Extracted repetitions: Portato, crescendo, 1st to 9th note 1 velocity layer			
<b>03_BA_rep_dim9_por-1 (2/3/4/5/6/7/8/9)</b>		<b>Samples: 19</b>	<b>RAM: 1 MB</b>
Extracted repetitions: Portato, diminuendo, 1st to 9th note 1 velocity layer			
<b>04_BA_rep_cre9_sta-1 (2/3/4/5/6/7/8/9)</b>	<b>Range: A#1–C5</b>	<b>Samples: 20</b>	<b>RAM: 1 MB</b>
Extracted repetitions: Staccato, crescendo, 1st to 9th note 1 velocity layer			
<b>04_BA_rep_dim9_sta-1 (2/3/4/5/6/7/8/9)</b>	<b>Range: A#1–C5</b>	<b>Samples: 20</b>	<b>RAM: 1 MB</b>
Extracted repetitions: Staccato, diminuendo, 1st to 9th note 1 velocity layer			
<b>02 Long Notes - Single Layer</b>			
<b>Range: A#1–F5</b>			
<b>01_BA_sus_p</b>		<b>Samples: 82</b>	<b>RAM: 5 MB</b>
Sustained, piano 1 velocity layer Release samples			
<b>02_BA_sus_mf</b>		<b>Samples: 82</b>	<b>RAM: 5 MB</b>
Sustained, mezzoforte 1 velocity layer Release samples			
<b>03_BA_sus_f</b>		<b>Samples: 82</b>	<b>RAM: 5 MB</b>
Sustained, forte 1 velocity layer Release samples			
<b>04_BA_sus_ff</b>		<b>Samples: 82</b>	<b>RAM: 5 MB</b>
Sustained, fortissimo 1 velocity layer Release samples			

**03 Perf Speed variation****Range: A#1–D5****01 BA\_perf-leg\_sustain****Samples: 1116   RAM: 69 MB**

Legato with sustain crossfading  
2 velocity layers  
Release samples

**99 RELEASE**

This section contains release samples for various patches of the other sections. Please do not try to load them into a Vienna Instruments matrix – you will not be able to hear anything when you try to play them.

# Matrices

## Matrix - LEVEL 1

### L1 BA Articulation Combi

**Samples: 1631   RAM: 101 MB**

Single note articulations

Staccato, portato short, sustained with and without vibrato, crescendo-diminuendo with vibrato 3 and 5 sec., fortetpiano and sforzato without vibrato, flutter tonguing, trills half and whole tone

**Matrix switches:** Horizontal: Keyswitches, C6–F6      Vertical: Modwheel, 2 zones

	C6	C#6	D6	D#6	E6	F6
V1	stac	sus vib.	pfp vib. 3s.	fp no vib.	flutter	trill half
V2	port. short	sus no vib.	pfp vib. 5s.	sfz no vib.	flutter	trill whole

### L1 BA Perf-Legato Speed

**Samples: 2102   RAM: 131 MB**

Interval performances

Legato with sustain crossfading, normal, and fast

Monophonic, Speed controller

**Matrix switches:** Horizontal: Speed, 3 zones

	H1	H2	H3
Legato	sustain XF	normal	fast

### L1 BA Perf-Repetitions Combi

**Samples: 1380   RAM: 86 MB**

Repetition performances

Legato slow

Portato fast

Staccato fast

**Matrix switches:** Vertical: Modwheel, 3 zones

	repetitions
V1	legato slow
V2	portato fast
V3	staccato fast

## Matrix - LEVEL 2 A - Advanced

### O1 BA Perf-Universal

**Samples: 3510   RAM: 219 MB**

Interval performances

Legato with sustain crossfading, normal, and fast

Marcato normal and fast

Monophonic, Speed controller

**Matrix switches:** Horizontal: Speed, 3 zones      Vertical: Modwheel, 2 zones

	H1	H2	H3
legato	sustain	normal	fast
marcato	normal	normal	fast

**02 BA Perf-Trill Speed****Samples: 3438 RAM: 214 MB**

Multi interval performances

Legato and trills

Monophonic, Speed controller

**Matrix switches:** Horizontal: Speed, 2 zones

	H1	H2
V1	legato	trills

**03 BA Short+Long notes - All****Samples: 1558 RAM: 97 MB**

Single notes

Staccato, portato short and medium

Sustained with normal, progressive, and without vibrato

**Matrix switches:** Horizontal: Keyswitches, C6–D#6 Vertical: Modwheel, 3 zones

	C6	C#6	D6	D#6
V1	staccato	portato short	portato med.	sus. vibrato
V2	%	%	%	sus. prog. vibrato
V3	%	%	%	sus. no vibrato

**Matrix - LEVEL 2 B - Standard****11 BA Perf-Legato Speed****Samples: 2102 RAM: 131 MB**

Interval performances

Legato with sustain crossfading, normal, and fast

Monophonic, Speed controller

**Matrix switches:** Horizontal: Speed, 3 zones

	H1	H2	H3
Legato	sustain XF	normal	fast

**12 BA Perf-Marcato Speed****Samples: 1572 RAM: 98 MB**

Interval performances: Marcato normal and fast

Monophonic, Speed controller

**Matrix switches:** Horizontal: Speed, 2 zones

	H1	H2
Marcato	normal	fast

**13 BA Short notes - All****Samples: 1653 RAM: 103 MB**

Single notes

Staccato, portato short and medium, portato long with normal and strong vibrato, without vibrato normal and marcato

**Matrix switches:** Horizontal: Keyswitches, C6–F#6

	C6	C#6	D6	D#6	E6	F6	F#6
V1	staccato	port. short	port. med.	port.long vib.	port.long strong vib.	port.long marcato	

**14 BA Long notes - All****Samples: 574 RAM: 35 MB**

Single notes

Sustained with normal, progressive, and without vibrato

**Matrix switches:** Horizontal: Keyswitches, C6–D6

	C6	C#6	D6
sustained	normal vibrato	progr. vibrato	no vibrato

**15 BA Dynamics - Small****Samples: 518    RAM: 32 MB**

Dynamics

Crescendo and diminuendo with vibrato, medium 2 and 3 sec., strong 5 sec.

Fortepiano, sforzato, sforzatissimo without vibrato

**Matrix switches:** Horizontal: Keyswitches, C6–D6      Vertical: Modwheel, 4 zones

	C6	C#6	D6
dynamics vib.	med. 2 sec.	med. 3 sec.	strong 5 sec.
fp no vib.	%	%	%
sfz no vib.	%	%	%
sffz no vib.	%	%	%

**16 BA Dynamics - Large****Samples: 1435    RAM: 89 MB**

Dynamics

Crescendo and diminuendo, medium with vibrato 2, 3, and 5 sec., medium and strong without vibrato 3, 4, and 5 sec.

Crescendo-diminuendo with vibrato 3, 5, and 8 sec.

Fortepiano, sforzato, sforzatissimo without vibrato

**Matrix switches:** Horizontal: Keyswitches, C6–D6      Vertical: Modwheel, 5 zones

	C6	C#6	D6
med. dyn. vib.	2 sec.	3 sec.	5 sec.
med. dyn. no vib.	3 sec.	4 sec.	6 sec.
strong dyn. no vib.	3 sec.	4 sec.	5 sec.
pfp vib.	3 sec.	5 sec.	8 sec.
special dyn.	fp no vib.	sfz no vib.	sffz no vib.

**17 BA Trills - normal****Samples: 422    RAM: 26 MB**

Trills

Normal and dynamics

Half and whole tone

**Matrix switches:** Horizontal: Keyswitches, C6–C#6      Vertical: Modwheel, 2 zones

	C6	C#6
half tone	normal	dynamics
whole tone	normal	dynamics

**Matrix - LEVEL 2 C - Repetitions****31 BA Perf-Repetitions - Combi****Samples: 1680    RAM: 105 MB**

Repetition performances

Slow and fast legato, fast portato, staccato

**Matrix switches:** Horizontal: Keyswitches, C6–D#6

	C1	C#1	D1	
V1	legato slow	legato fast	portato fast	staccato

**32 BA Perf-Repetitions - Speed****Samples: 1680 RAM: 105 MB**

Repetition performances

Slow and fast legato, fast portato, staccato

Speed controller

**Matrix switches:** Horizontal: Speed, 4 zones

	legato	legato	portato	staccato
speed	slow	fast	fast	norm

**33 BA Fast-Repetitions****Samples: 360 RAM: 22 MB**

Fast repetitions

140, 150, 160, 170, 180 BPM

**Matrix switches:** Horizontal: Keyswitches, C6–E6

	C6	C#6	D6	D#6	E6
speed/BPM	140	150	160	170	180

**34 BA Perf Upbeat Repetitions****Samples: 640 RAM: 40 MB**

Repetition performances

1 and 2 upbeats, slow and fast

**Matrix switches:** Horizontal: Keyswitches, C6–C#6 Vertical: Modwheel, 2 zones

	C6	C#6
1 upbeat	slow	fast
2 upbeats	slow	fast

**Matrix - LEVEL 2 D - Scale+Phrase****41 BA Scale runs-legato - Major****Samples: 368 RAM: 23 MB**

Octave runs, legato, C to B major

AB switch up/down

**Matrix switches:** Horizontal: Keyswitches, C6–B6

	C6	C#6	D6	D#6	E6	F6	F#6	G6	G#6	A6	A#6	B6
legato maj.	C	C#	D	D#	E	F	F#	G	G#	A	A#	B

**42 BA Scale runs-legato - Minor****Samples: 392 RAM: 24 MB**

Octave runs, legato, C to B minor

AB switch up/down

**Matrix switches:** Horizontal: Keyswitches, C6–B6

	C6	C#6	D6	D#6	E6	F6	F#6	G6	G#6	A6	A#6	B6
legato min.	C	C#	D	D#	E	F	F#	G	G#	A	A#	B

**43 BA Scale runs-legato - Special****Samples: 112 RAM: 7 MB**

Octave runs, legato, chromatic and whole tone

AB switch up/down

**Matrix switches:** Vertical: Modwheel, 2 zones

	legato
V1	chromatic
V2	whole tone



**44 BA Scale runs-legato - all****Samples: 872    RAM: 54 MB**

Octave runs, legato, C to B major and minor, chromatic and whole tone  
AB switch up/down

**Matrix switches:** Horizontal: Keyswitches, C6–B6      Vertical: Modwheel, 4 zones

	C6	C#6	D6	D#6	E6	F6	F#6	G6	G#6	A6	A#6	B6
major	C	C#	D	D#	E	F	F#	G	G#	A	A#	B
minor	C	C#	D	D#	E	F	F#	G	G#	A	A#	B
chromatic	%	%	%	%	%	%	%	%	%	%	%	%
whole tone	%	%	%	%	%	%	%	%	%	%	%	%

**45 BA Grace notes - All****Samples: 1255    RAM: 78 MB**

Grace notes, minor 2nd to octave  
AB switch up/down

**Matrix switches:** Horizontal: Keyswitches, C6–B6

	C6	C#6	D6	D#6	E6	F6	F#6	G6	G#6	A6	A#6	B6
interval	min. 2nd	maj. 2nd	min. 3rd	maj. 3rd	4th	dim. 5th	5th	min. 6th	maj. 6th	min. 7th	maj. 7th	octave

**Matrix - LEVEL 2 E - Keyswitch Vel****71 BA Legato slow - cre5****Samples: 100    RAM: 6 MB**

Slow legato notes: Crescendo, keyswitch velocity  
Keyswitches control 5 dynamic steps

**Matrix switches:** Horizontal: Keyswitches, C6–E6

	C6	C#6	D6	D#6	E6
velocity	1st	2nd	3rd	4th	5th

**72 BA Legato fast - cre5****Samples: 100    RAM: 6 MB**

Fast legato notes: Crescendo, keyswitch velocity  
Keyswitches control 5 dynamic steps

**Matrix switches:** Horizontal: Keyswitches, C6–E6

	C6	C#6	D6	D#6	E6
velocity	1st	2nd	3rd	4th	5th

**73 BA Portato - cre9****Samples: 171    RAM: 10 MB**

Portato notes: Crescendo, keyswitch velocity  
Keyswitches control 9 dynamic steps

**Matrix switches:** Horizontal: Keyswitches, C6–G#6

	C6	C#6	D6	D#6	E6	F6	F#6	G6	G#6
velocity	1st	2nd	3rd	4th	5th	6th	7th	8th	9th

**74 BA Staccato - cre9****Samples: 180    RAM: 11 MB**

Staccato notes: Crescendo, keyswitch velocity  
Keyswitches control 9 dynamic steps

**Matrix switches:** Horizontal: Keyswitches, C6–G#6

	C6	C#6	D6	D#6	E6	F6	F#6	G6	G#6
velocity	1st	2nd	3rd	4th	5th	6th	7th	8th	9th

**75 BA Combi - cre5****Samples: 200 RAM: 12 MB**

Slow and fast legato: Crescendo, keyswitch velocity

Keyswitches control 5 dynamic steps

**Matrix switches:** Horizontal: Keyswitches, C6–E6 Vertical: Modwheel, 2 zones

	C6	C#6	D6	D#6	E6
legato slow	1st	2nd	3rd	4th	5th
legato fast	1st	%	%	%	%

**76 BA Combi - cre9****Samples: 351 RAM: 21 MB**

Portato and staccato: Crescendo, keyswitch velocity

Keyswitches control 9 dynamic steps

**Matrix switches:** Horizontal: Keyswitches, C6–G#6 Vertical: Modwheel, 2 zones

	C6	C#6	D6	D#6	E6	F6	F#6	G6	G#6
portato	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
staccato	1st	%	%	%	%	%	%	%	%

**77 BA Legato slow - dim5****Samples: 100 RAM: 6 MB**

Slow legato notes: Diminuendo, keyswitch velocity

Keyswitches control 5 dynamic steps

**Matrix switches:** Horizontal: Keyswitches, C6–E6

	C6	C#6	D6	D#6	E6
velocity	1st	2nd	3rd	4th	5th

**78 BA Legato fast - dim5****Samples: 100 RAM: 6 MB**

Fast legato notes: Diminuendo, keyswitch velocity

Keyswitches control 5 dynamic steps

**Matrix switches:** Horizontal: Keyswitches, C6–E6

	C6	C#6	D6	D#6	E6
velocity	1st	2nd	3rd	4th	5th

**79 BA Portato - dim9****Samples: 171 RAM: 10 MB**

Portato notes: Diminuendo, keyswitch velocity

Keyswitches control 9 dynamic steps

**Matrix switches:** Horizontal: Keyswitches, C6–G#6

	C6	C#6	D6	D#6	E6	F6	F#6	G6	G#6
velocity	1st	2nd	3rd	4th	5th	6th	7th	8th	9th

**80 BA Staccato - dim9****Samples: 180 RAM: 11 MB**

Staccato notes: Diminuendo, keyswitch velocity

Keyswitches control 9 dynamic steps

**Matrix switches:** Horizontal: Keyswitches, C6–G#6

	C6	C#6	D6	D#6	E6	F6	F#6	G6	G#6
velocity	1st	2nd	3rd	4th	5th	6th	7th	8th	9th

**81 BA Combi - dim5****Samples: 200    RAM: 12 MB**

Slow and fast legato: Diminuendo, keyswitch velocity

Keyswitches control 5 dynamic steps

**Matrix switches:** Horizontal: Keyswitches, C6–E6      Vertical: Modwheel, 2 zones

	C6	C#6	D6	D#6	E6
legato slow	1st	2nd	3rd	4th	5th
legato fast	1st	%	%	%	%

**82 BA Combi - dim9****Samples: 351    RAM: 21 MB**

Portato and staccato: Diminuendo, keyswitch velocity

Keyswitches control 9 dynamic steps

**Matrix switches:** Horizontal: Keyswitches, C6–G#6      Vertical: Modwheel, 2 zones

	C6	C#6	D6	D#6	E6	F6	F#6	G6	G#6
portato	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
staccato	1st	%	%	%	%	%	%	%	%

## Presets

### BA VSL Preset Level 1

Samples: 4748   RAM: 296 MB

L1 BA Perf-Legato Speed  
 L1 BA Articulation Combi  
 L1 BA Perf-Repetitions Combi

**Keyswitches: C7–D7**

### BA VSL Preset Level 2

Samples: 9455   RAM: 590 MB

01 BA Perf-Universal  
 02 BA Perf-Trill Speed  
 L1 BA Articulation Combi  
 31 BA Perf-Repetitions - Combi  
 76 BA Combi - cre9  
 44 BA Scale runs-legato - all

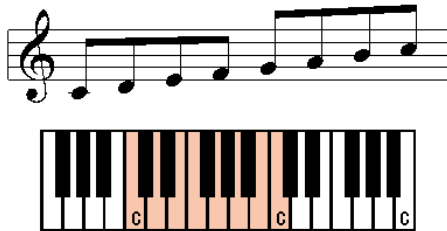
**Keyswitches: C7–F7**

# Appendix

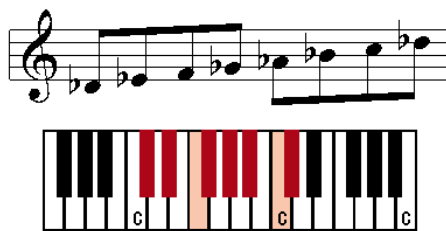
In the following, you will find notations and keyboard layout graphics for major and minor scale runs and arpeggios, as well as a list of playing ranges for the individual scale and arpeggio Patches.

## Scale runs - major

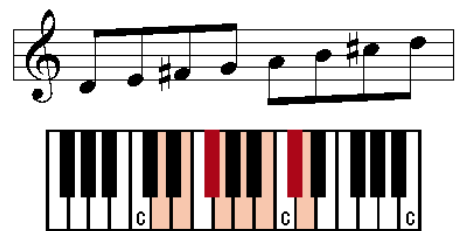
C major



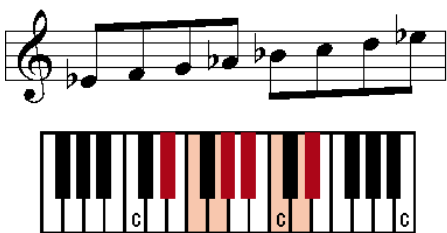
C#/Db major



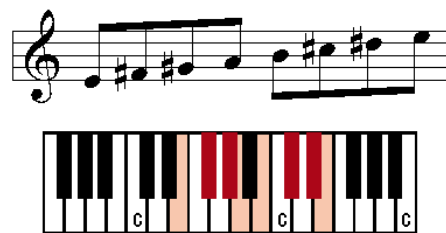
D major



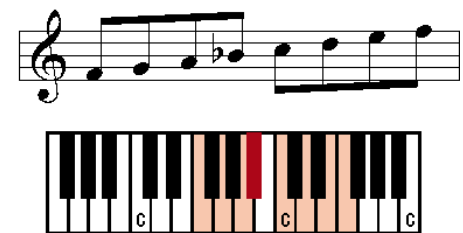
D#/Eb major



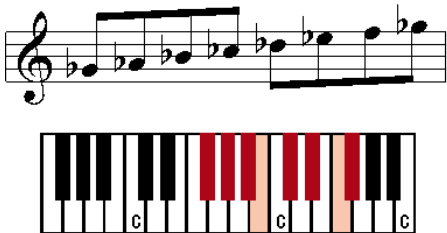
E major



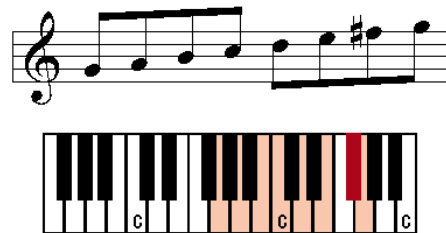
F major



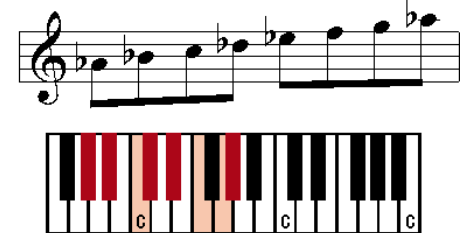
F#/Gb major



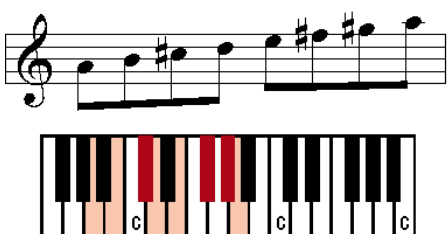
G major



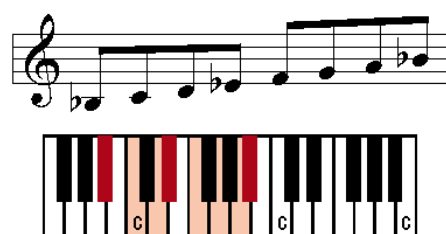
G#/Ab major



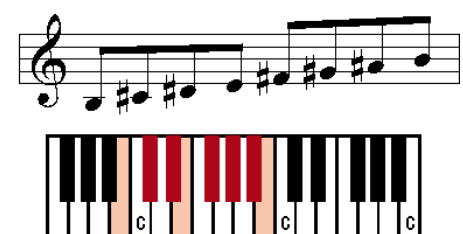
A major



A#/Bb major



B major



# Scale runs - minor

C minor



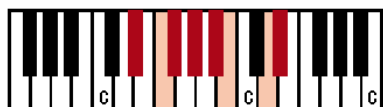
C#/Db minor



D minor



D#/Eb minor



E minor



F minor



F#/Gb minor



G minor



G#/Ab minor



A minor



A#/Bb minor



B minor



## Scale ranges

### Octave runs

#### Legato major

	play range
01 BA_run-leg_C-ma	B1–C5
02 BA_run-leg_C#-ma	C2–C#5
03 BA_run-leg_D-ma	B1–B4
04 BA_run-leg_D#-ma	C2–C5
05 BA_run-leg_E-ma	B1–B4
06 BA_run-leg_F-ma	C2–C5
07 BA_run-leg_F#-ma	A#1–B4
08 BA_run-leg_G-ma	B1–C5
09 BA_run-leg_G#-ma	A#1–A#4
10 BA_run-leg_A-ma	B1–B4
11 BA_run-leg_A#-ma	A#1–A#4
12 BA_run-leg_B-ma	B1–B4

#### Legato minor

	play range
01 BA_run-leg_C-mi	B1–C5
02 BA_run-leg_C#-mi	C2–C#5
03 BA_run-leg_D-mi	A#1–C#5
04 BA_run-leg_D#-mi	B1–D5
05 BA_run-leg_E-mi	B1–C5
06 BA_run-leg_F-mi	C2–C#5
07 BA_run-leg_F#-mi	B1–C#5
08 BA_run-leg_G-mi	C2–D5
09 BA_run-leg_G#-mi	A#1–C#5
10 BA_run-leg_A-mi	B1–D5
11 BA_run-leg_A#-mi	A#1–C#5
12 BA_run-leg_B-mi	B1–D5